UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

November 1964

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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*Part 1 - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
NOVEMBER 1964

Acknowledgments

The following organizations and stations contributed data for the November 1964 charts:

U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington

U.S. Bureau of Commercial Fisheries Biological Laboratories, La Jolla, California; Honolulu, Hawaii and Seattle, Washington

U.S. Weather Bureau, San Diego, California

U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone

U.S. Weather Bureau Port Meteorological Office, Cristobal, Canal Zone

Guadalupe Island, Coronado Island, Ensenada, Cedros Island and Almejas Bay by Pedro Mercado of the Universidad Autonoma de Baja California, Ensenada, Mexico

Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri

Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; David Ortega at Manzanillo, Mexico; L. A. Peren at Pt. Armuelles, Panama; R. H. Valencia at San Jose, Guatemala; V. E. Castillo at Tumaco, Columbia; G. Tapia at San Cristobal, Galapagos; S. Valenzuela at La Libertad, Ecuador; L. Meza at Talara, Peru; Juan Andia at San Juan, Peru

Inter-American Tropical Tuna Commission, La Jolla and Terminal Island, California

Kelco Company, San Diego, California

Lifeguard Headquarters, Newport Beach, California

Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by R. Collins at Quatsino Lightstation; T. Quon at Cape St. James Light; R. Stuart at Amphitrite Point Light; W. E. Redlac at Langara Island Light

Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light-ship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder than mean.

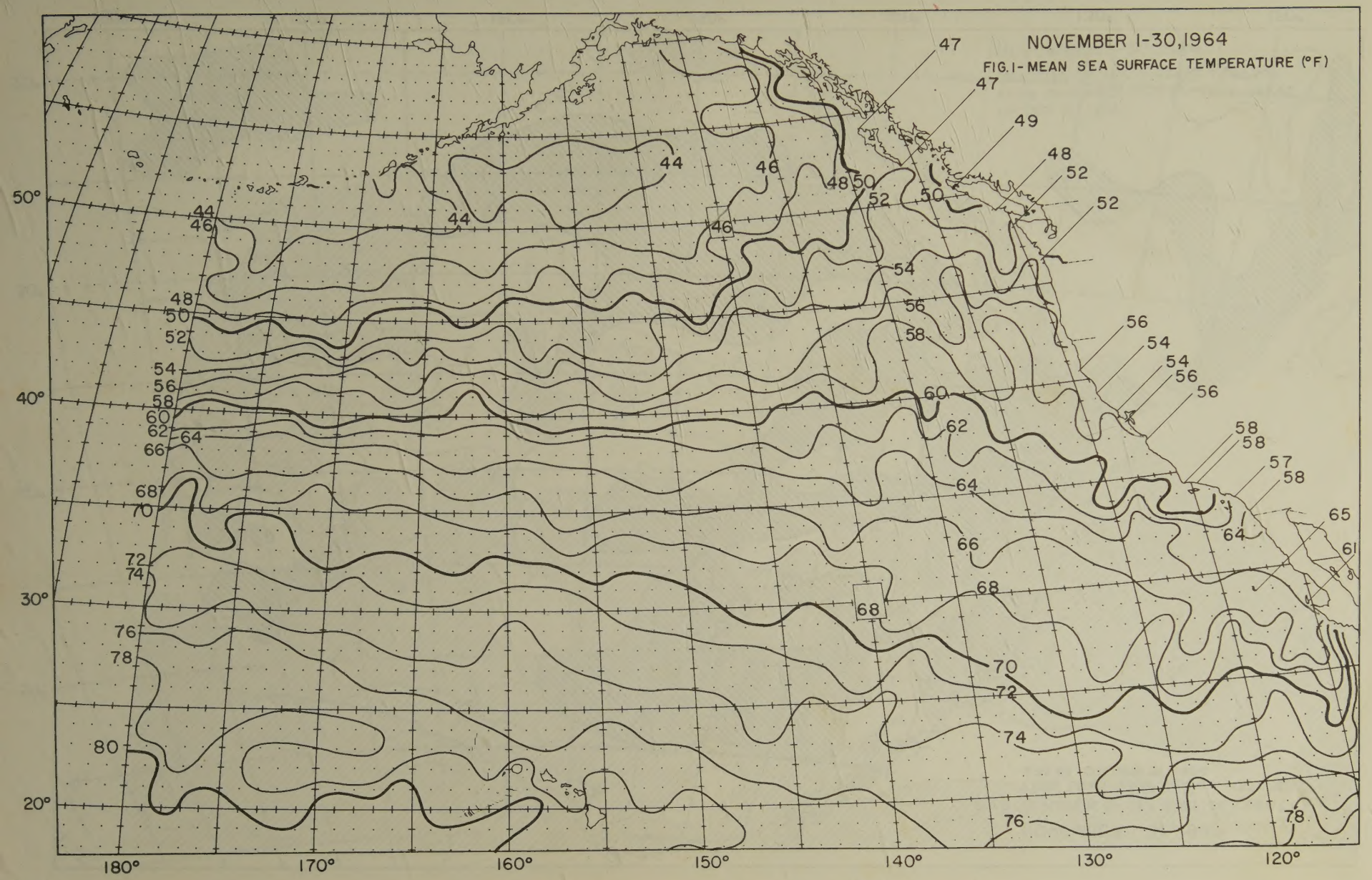
Figure 3.--Deviation of sea surface temperatures (°F) from those of November 1963. Hatched areas are colder than 1963.

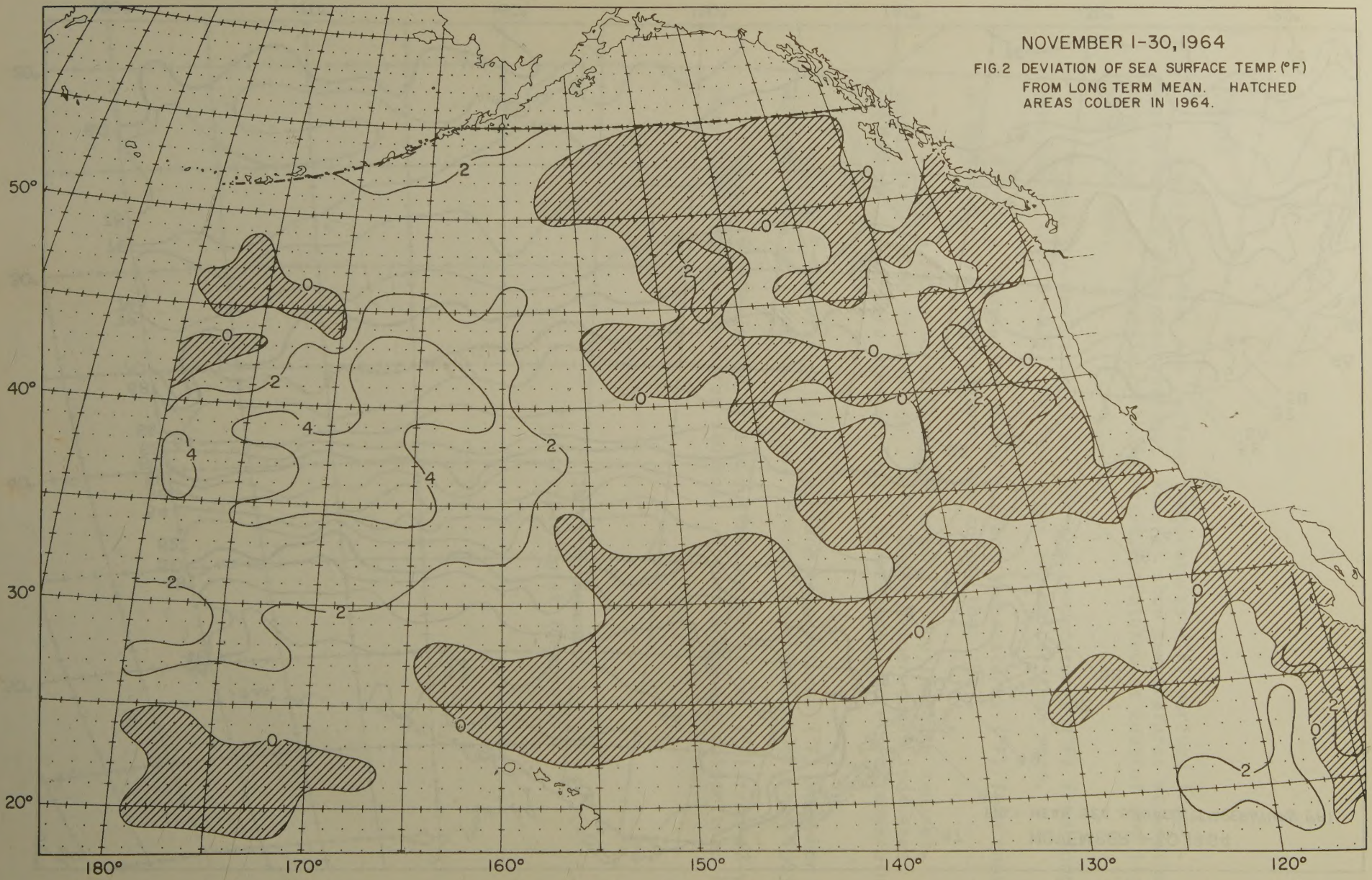
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

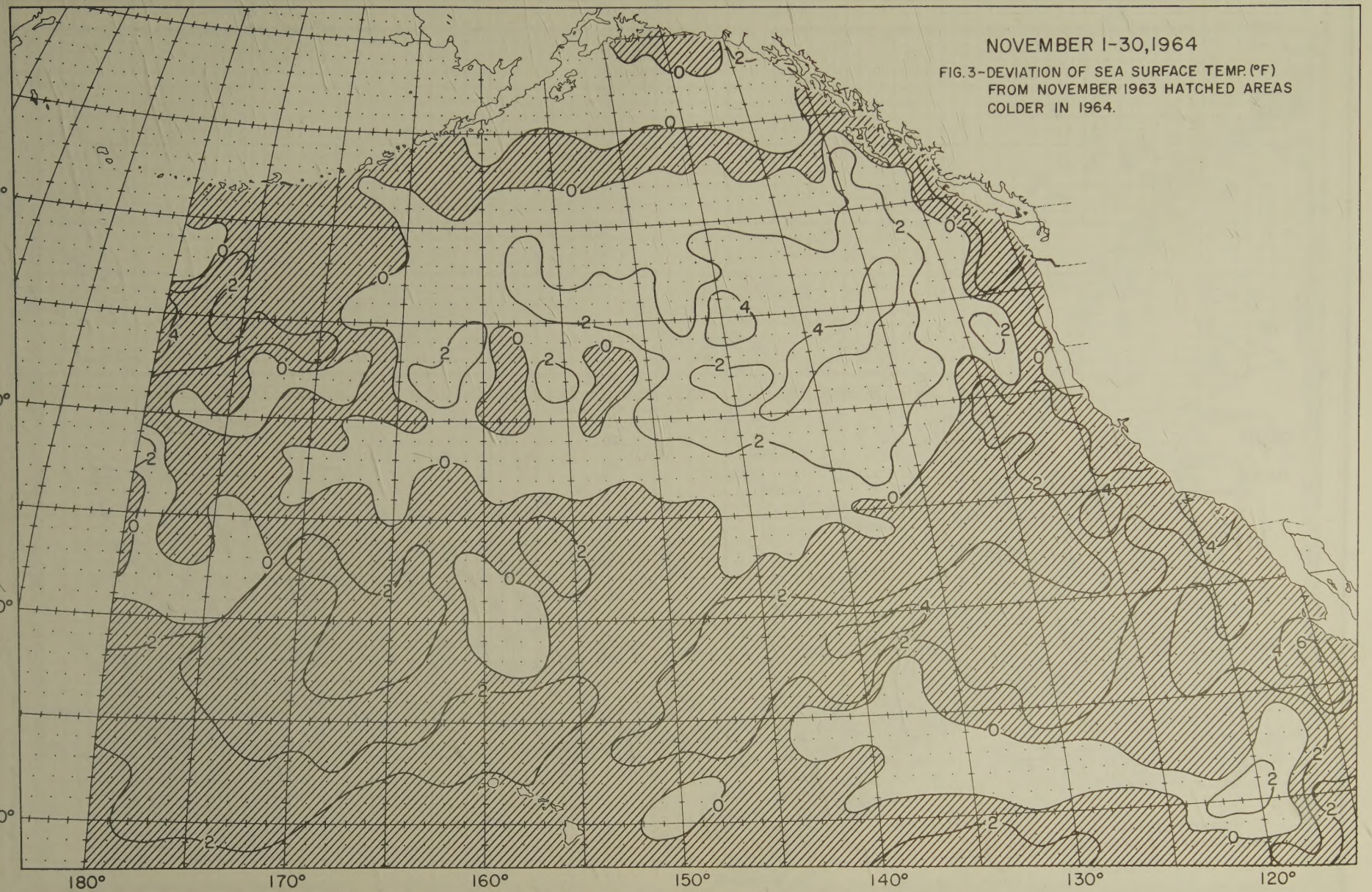
Figure 5.--Deviation of sea surface temperatures (°F) November 1964-November 1963 by 1-degree squares. Shaded areas are colder than 1963.

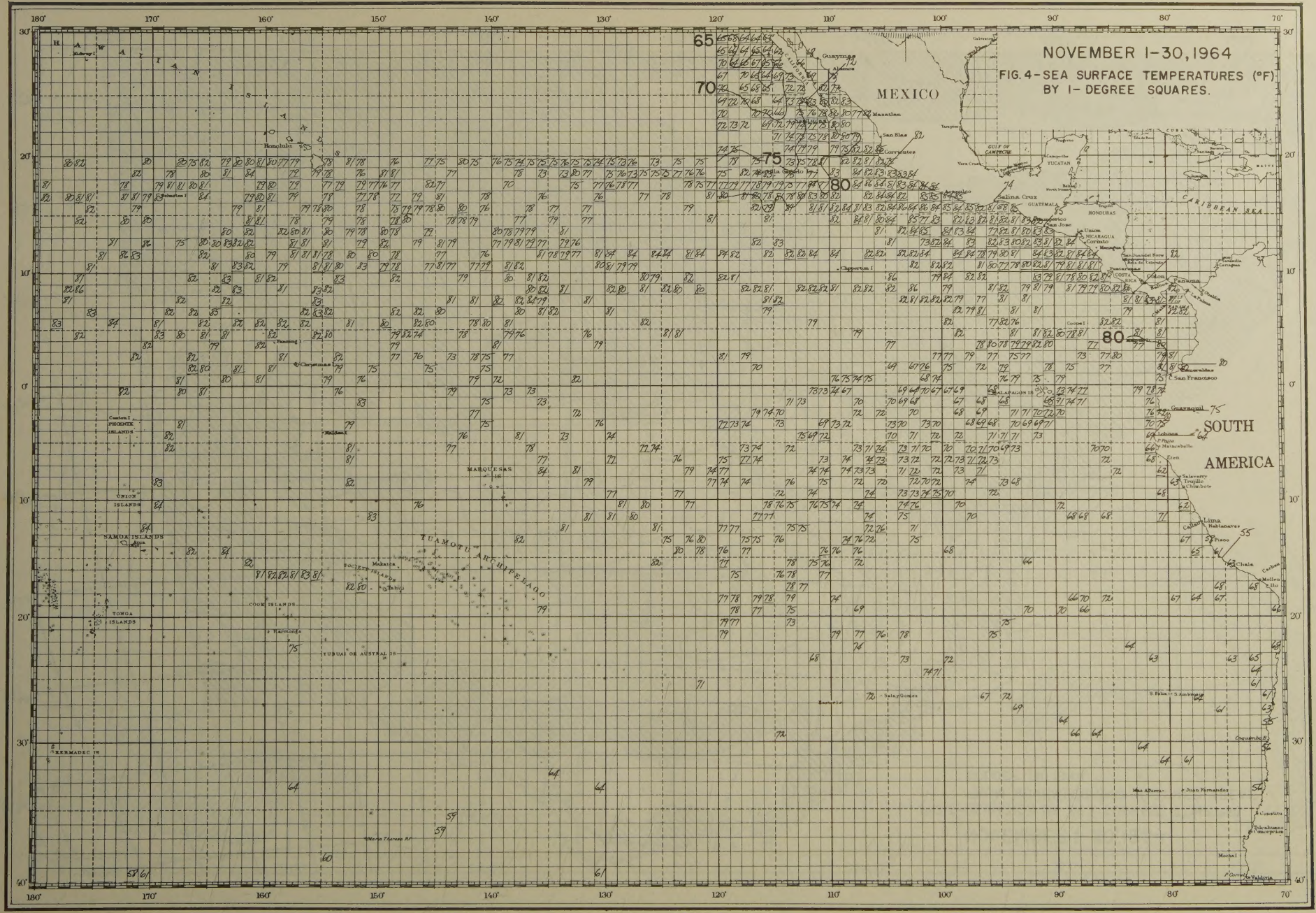
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder than 1963.

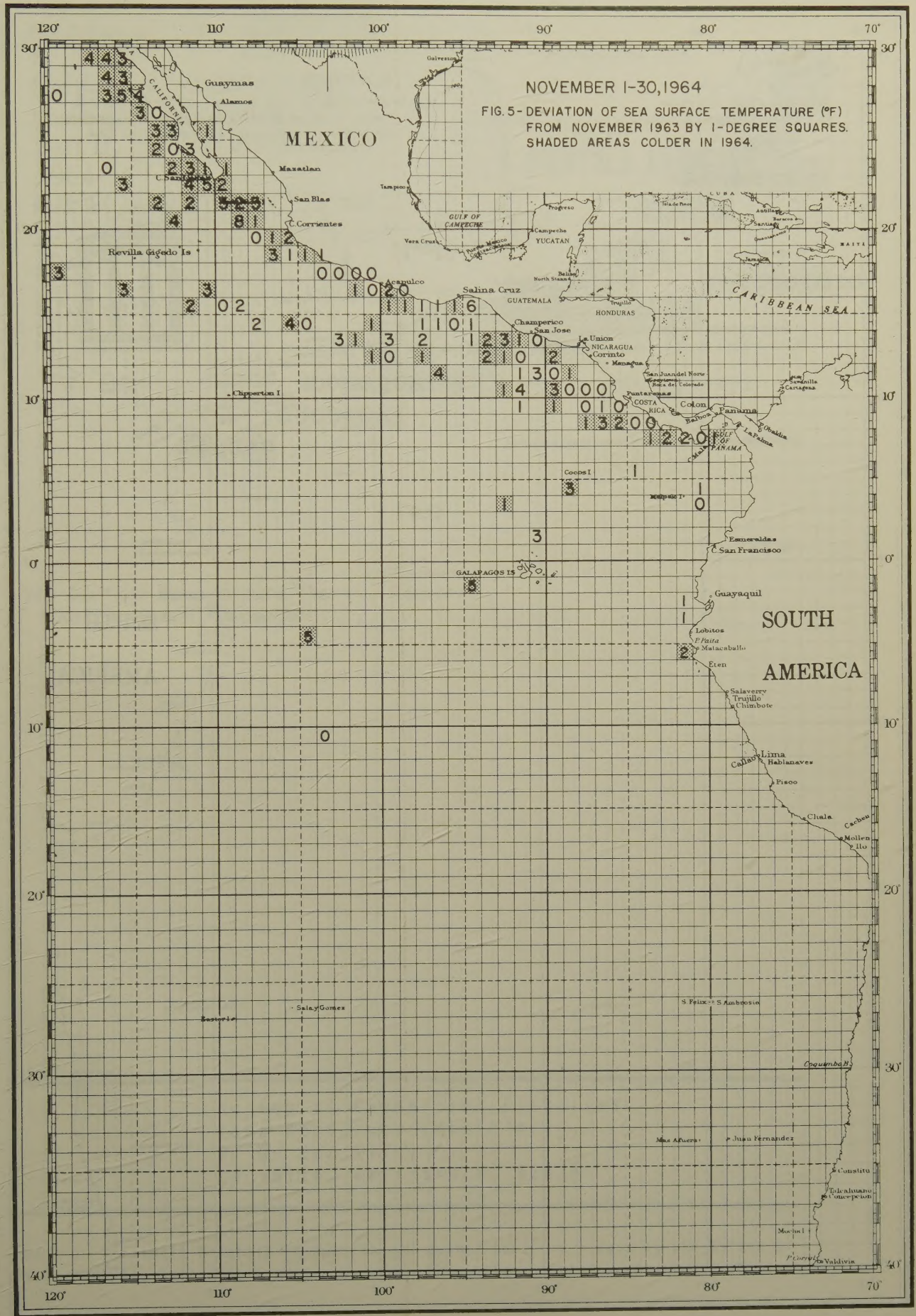
James A. Renner
Fishery Biologist (General)

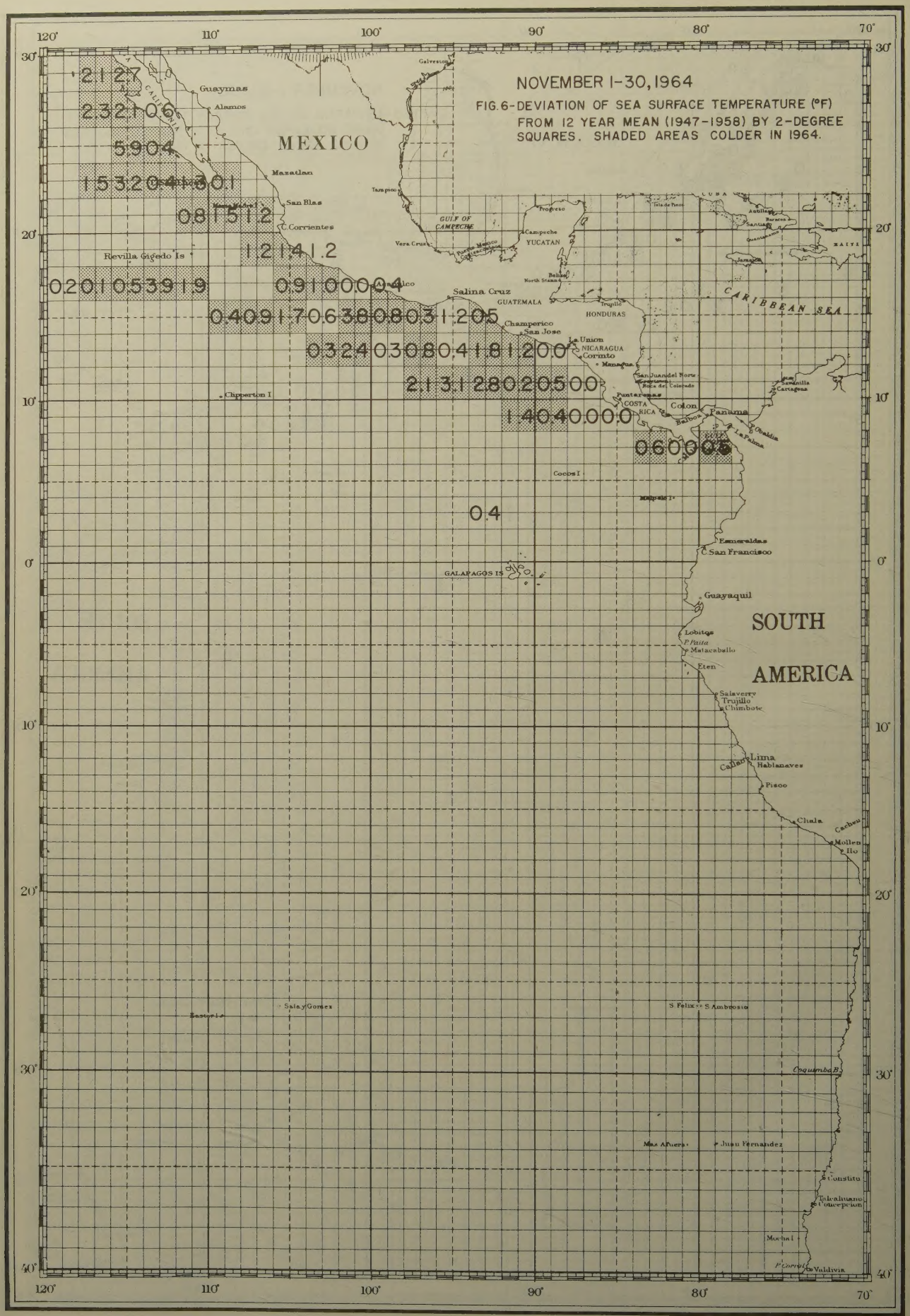

NOVEMBER 1-30, 1964
FIG. 1 - MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1964
FIG. 2 DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1964.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1964
FIG. 3-DEVIATION OF SEA SURFACE TEMP. (°F) FROM NOVEMBER 1963 HATCHED AREAS COLDER IN 1964.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1964
FIG. 4 - SEA SURFACE TEMPERATURES (°F) BY 1- DEGREE SQUARES.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
YUCATAN
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
CUBA
HAWAIIAN ISLANDS
Honolulu
Midway I.
MARQUESAS IS.
TUAMOTU ARCHIPELAGO
SOCIETY ISLANDS
Tahiti
Makatea
COOK ISLANDS
TONGA ISLANDS
SAMOA ISLANDS
UNION ISLANDS
PHOENIX ISLANDS
Canton I.
Enderbury I.
Christmas I.
Fanning I.
Palmyra I.
Johnston I.
KERMADEC IS.
TUBUAI OR AUSTRAL IS.
GALAPAGOS IS.
Guayaquil
San Francisco
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Arica
Iquique
Antofagasta
Juan Fernandez
Mas Afuera
Concepcion
Talcahuano
Valparaiso
Mocha I.
Easter I.
Clipperton I.
Cocos I.
Malpelo I.
Malpelo
Tumaco
Buenaventura
Esmeraldas
Manzanillo
Acapulco
Salina Cruz
Tehuantepec
Veracruz
Tampico
Galveston
Corpus Christi
Brownsville
Matamoros
Mazatlan
San Blas
Guaymas
Cabo San Lucas
Progreso
Belize
Puerto Barrios
Puerto Cortes
Corinto
Puntarenas
Panama
Colon
Cristobal
Cartagena
Barranquilla
Maracaibo
Curacao
Aruba
Trinidad
Barbados
Kingston
Port au Prince
Cuba
Bahamas
Key West
Miami
Charleston
Norfolk
Baltimore
Philadelphia
New York
Boston
Halifax
Bermuda
Azores
Lisbon
Madeira
Canary Is.
Dakar
Monrovia
Freetown
Accra
Lagos
Douala
Pointe Noire
Luanda
Walvis Bay
Cape Town
Port Elizabeth
East London
Durban
Lourenco Marques
Beira
Mozambique
Zanzibar
Mombasa
Aden
Bombay
Karachi
Colombo
Madras
Calcutta
Rangoon
Singapore
Penang
Djakarta
Surabaya
Hong Kong
Shanghai
Tsingtao
Vladivostok
Yokohama
Kobe
Nagasaki
Manila
Guam
Wake I.
Midway I.
Honolulu
Kodiak
Juneau
Sitka
Seattle
Portland
San Francisco
Los Angeles
San Diego
65
70
75
80
80
80


NOVEMBER 1-30, 1964
FIG. 5 - DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM NOVEMBER 1963 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1964.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GULF OF PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
GUATEMALA
HONDURAS
Champerico
San Jose
La Union
NICARAGUA
Corinto
Managua
San Juan del Norte
Punta Arenas
COSTA RICA
Colon
Panama
Chipperton I
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Ilo
Salas y Gomez
S. Felix
S. Ambrosio
Juan Fernandez
Mas Afuera
Talcahuano
Concepcion
Valdivia
Mocha I
Progreso
Campeche
YUCATAN
Tampico
Vera Cruz
Galveston
Belize
Trujillo
Isla de Pinos
CUBA
JAMAICA
HAITI
Barranquilla
Cartagena
Bahia
Chiloe
Coquimbo
Easter I
30°
20°
10°
0°
120°
110°
100°
90°
80°
70°


NOVEMBER 1-30, 1964
FIG. 6-DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1964.
MEXICO
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
YUCATAN
CARIBBEAN SEA
GULF OF CAMPECHE
SOUTH AMERICA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
C Corrientes
Revilla Gigedo Is
Salina Cruz
Champerico
San Jose
La Union
Cormto
Chipperton I
Coco I
Esmeraldas
C San Francisco
Guayaquil
Lobitos
P Pitita
Malacabello
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Cachau
Mollen
Ilo
Sala y Gomez
Easter I
S Felix
S Ambrosio
Coquimba B
Mas Afuera
Juan Fernandez
Constito
Talcahuano
Concepcion
Mocha I
P Corral
Valdivia
2.1 2.7
2.3 2.1 0.6
5.9 0.4
1.5 3.2 0.4 1.8 0.1
0.8 1.5 1.2
1.2 1.4 1.2
0.2 0.1 0.5 3.9 1.9
0.9 1.0 0.0 0.4
0.4 0.9 1.7 0.6 3.8 0.8 0.3 1.2 0.5
0.3 2.4 0.3 0.8 0.4 1.8 1.2 0.0
2.1 3.1 2.8 0.2 0.5 0.0
1.4 0.4 0.0 0.0
0.6 0.0 0.5
0.4